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# The United States of America



*Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.*

*Therefore, this*

## United States Patent

*Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.*

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US005936660A

# United States Patent [19]

Gurantz

[11] Patent Number: 5,936,660

[45] Date of Patent: Aug. 10, 1999

## [54] DIGITAL VIDEO CONVERTER BOX FOR SUBSCRIBER/HOME WITH MULTIPLE TELEVISION SETS

[75] Inventor: Itzhak Gurantz, San Diego, Calif.

[73] Assignee: Rockwell Semiconductor System, Inc., Newport Beach, Calif.

[21] Appl. No.: 08/988,548

[22] Filed: Dec. 10, 1997

### Related U.S. Application Data

[60] Provisional application No. 60/033,059, Dec. 12, 1996.

[51] Int. Cl.<sup>6</sup> ..... H04N 7/10

[52] U.S. Cl. .... 348/10; 348/734; 348/6; 348/12

[58] Field of Search ..... 348/734, 8, 10, 348/7, 12, 6, 13; 455/4.1, 5.1, 6.1, 6.3, 3.1; 345/327; H04N 5/00, 7/173, 5/44, 7/10

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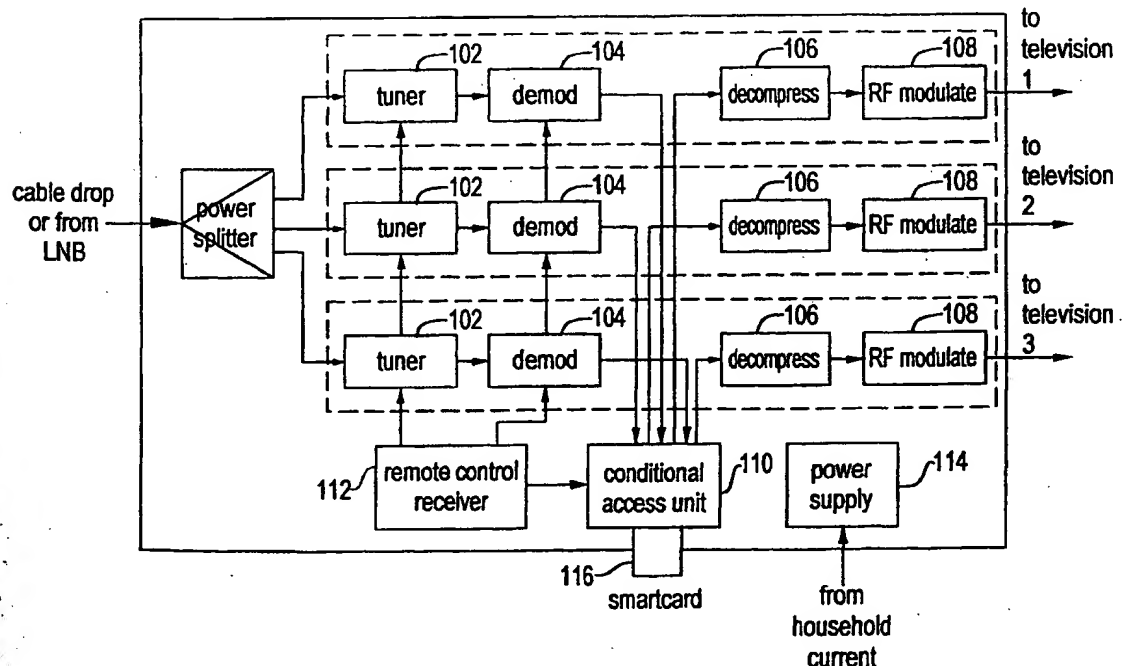
Primary Examiner—Nathan Flynn

Attorney, Agent, or Firm—Bromberg &amp; Sunstein LLP

### [57] ABSTRACT

A digital video conversion system housing multiple converter chains of units in a single main box chassis. A preferred embodiment uses only a single conditional access unit to authorize decryption of premium channels in response to a smartcard. The conversion system allows a single converter box sharing consolidated decryption (access control) circuitry and a single remote control receiver to provide video output for multiple television sets on the subscriber's premises. In addition to reducing the subscriber's hardware costs per television set, a common access control allows the video service provider to grant a multiple-set discount on a single smartcard.

21 Claims, 2 Drawing Sheets



AVAILABLE COPY Household Converter Block Diagram